

From the INTERNATIONAL BUREAU

## PCT

### NOTIFICATION OF ELECTION

(PCT Rule 61.2)

To:

Commissioner  
US Department of Commerce  
United States Patent and Trademark  
Office, PCT  
2011 South Clark Place Room  
CP2/5C24  
Arlington, VA 22202  
ETATS-UNIS D'AMERIQUE  
in its capacity as elected Office

<b>Date of mailing (day/month/year)</b> 04 December 2000 (04.12.00)	
<b>International application No.</b> PCT/GB00/00741	<b>Applicant's or agent's file reference</b> 07 35543
<b>International filing date (day/month/year)</b> 01 March 2000 (01.03.00)	<b>Priority date (day/month/year)</b> 04 March 1999 (04.03.99)
<b>Applicant</b> LEGOFF, Tania et al	

1. The designated Office is hereby notified of its election made:

☒ in the demand filed with the International Preliminary Examining Authority on:  
04 October 2000 (04.10.00)

☐ in a notice effecting later election filed with the International Bureau on:  
\_\_\_\_\_

2. The election ☒ was

☐ was not

made before the expiration of 19 months from the priority date or, where Rule 32 applies, within the time limit under Rule 32.2(b).

The International Bureau of WIPO 34, chemin des Colombettes 1211 Geneva 20, Switzerland  Facsimile No.: (41-22) 740.14.35	<b>Authorized officer</b>  Pascal Piriou  Telephone No.: (41-22) 338.83.38
---	--

# PATENT COOPERATION TREATY

**RECEIVED**

12 APR 2001

From the  
INTERNATIONAL PRELIMINARY EXAMINING AUTHORITY

**PCT**

To:

GEARY, Stuart L.  
VENNER, SHIPLEY & CO.  
20 Little Britain  
London EC1A 7DH  
GRANDE BRETAGNE

**NOTIFICATION OF TRANSMITTAL OF  
THE INTERNATIONAL PRELIMINARY  
EXAMINATION REPORT**  
(PCT Rule 71.1)

Date of mailing  
(day/month/year) 09.04.2001

Applicant's or agent's file reference  
07 35543

**IMPORTANT NOTIFICATION**

International application No.  
PCT/GB00/00741

International filing date (day/month/year)  
01/03/2000

Priority date (day/month/year)  
04/03/1999

Applicant  
ICO SERVICES LTD.

1. The applicant is hereby notified that this International Preliminary Examining Authority transmits herewith the international preliminary examination report and its annexes, if any, established on the international application.
2. A copy of the report and its annexes, if any, is being transmitted to the International Bureau for communication to all the elected Offices.
3. Where required by any of the elected Offices, the International Bureau will prepare an English translation of the report (but not of any annexes) and will transmit such translation to those Offices.

**4. REMINDER**

The applicant must enter the national phase before each elected Office by performing certain acts (filing translations and paying national fees) within 30 months from the priority date (or later in some Offices) (Article 39(1)) (see also the reminder sent by the International Bureau with Form PCT/IB/301).

Where a translation of the international application must be furnished to an elected Office, that translation must contain a translation of any annexes to the international preliminary examination report. It is the applicant's responsibility to prepare and furnish such translation directly to each elected Office concerned.

For further details on the applicable time limits and requirements of the elected Offices, see Volume II of the PCT Applicant's Guide.

Name and mailing address of the IPEA/

 European Patent Office  
D-80298 Munich  
Tel. +49 89 2399 - 0 Tx: 523656 epmu d  
Fax: +49 89 2399 - 4465

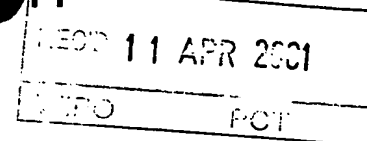
Authorized officer

Schmethüsen, S

Tel. +49 89 2399-2567



PCT



INTERNATIONAL PRELIMINARY EXAMINATION REPORT

(PCT Article 36 and Rule 70)

Applicant's or agent's file reference 07 35543	<b>FOR FURTHER ACTION</b> See Notification of Transmittal of International Preliminary Examination Report (Form PCT/IPEA/416)	
International application No. PCT/GB00/00741	International filing date (day/month/year) 01/03/2000	Priority date (day/month/year) 04/03/1999
International Patent Classification (IPC) or national classification and IPC G01S5/12		
Applicant ICO SERVICES LTD.		

1. This international preliminary examination report has been prepared by this International Preliminary Examining Authority and is transmitted to the applicant according to Article 36.



2. This REPORT consists of a total of 7 sheets, including this cover sheet.

☐ This report is also accompanied by ANNEXES, i.e. sheets of the description, claims and/or drawings which have been amended and are the basis for this report and/or sheets containing rectifications made before this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions under the PCT).

These annexes consist of a total of sheets.

3. This report contains indications relating to the following items:

- I ☒ Basis of the report
- II ☐ Priority
- III ☒ Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
- IV ☐ Lack of unity of invention
- V ☒ Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
- VI ☐ Certain documents cited
- VII ☒ Certain defects in the international application
- VIII ☐ Certain observations on the international application

Date of submission of the demand  04/10/2000	Date of completion of this report  09.04.2001
Name and mailing address of the international preliminary examining authority:   European Patent Office D-80298 Munich Tel. +49 89 2399 - 0 Tx: 523656 epmu d Fax: +49 89 2399 - 4465	Authorized officer  Fanjul Caudevilla, J  Telephone No. +49 89 2399 2533 

# INTERNATIONAL PRELIMINARY EXAMINATION REPORT

International application No. PCT/GB00/00741

## I. Basis of the report

1. With regard to the **elements** of the international application (*Replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report since they do not contain amendments (Rules 70.16 and 70.17)*):

**Description, pages:**

1-21 as originally filed

**Claims, No.:**

1-10 as originally filed

**Drawings, sheets:**

1/8-8/8 as originally filed

2. With regard to the **language**, all the elements marked above were available or furnished to this Authority in the language in which the international application was filed, unless otherwise indicated under this item.

These elements were available or furnished to this Authority in the following language: , which is:

- ☐ the language of a translation furnished for the purposes of the international search (under Rule 23.1(b)).
- ☐ the language of publication of the international application (under Rule 48.3(b)).
- ☐ the language of a translation furnished for the purposes of international preliminary examination (under Rule 55.2 and/or 55.3).

3. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application, the international preliminary examination was carried out on the basis of the sequence listing:

- ☐ contained in the international application in written form.
- ☐ filed together with the international application in computer readable form.
- ☐ furnished subsequently to this Authority in written form.
- ☐ furnished subsequently to this Authority in computer readable form.
- ☐ The statement that the subsequently furnished written sequence listing does not go beyond the disclosure in the international application as filed has been furnished.
- ☐ The statement that the information recorded in computer readable form is identical to the written sequence listing has been furnished.

4. The amendments have resulted in the cancellation of:

- ☐ the description, pages:
- ☐ the claims, Nos.:

**INTERNATIONAL PRELIMINARY  
EXAMINATION REPORT**

International application No. PCT/GB00/00741

☐ the drawings, sheets:

5. ☐ This report has been established as if (some of) the amendments had not been made, since they have been considered to go beyond the disclosure as filed (Rule 70.2(c)):

*(Any replacement sheet containing such amendments must be referred to under item 1 and annexed to this report.)*

6. Additional observations, if necessary:

**III. Non-establishment of opinion with regard to novelty, inventive step and industrial applicability**

1. The questions whether the claimed invention appears to be novel, to involve an inventive step (to be non-obvious), or to be industrially applicable have not been examined in respect of:

☐ the entire international application.

☒ claims Nos. 3,4,6,7,8,9.

because:

☐ the said international application, or the said claims Nos. relate to the following subject matter which does not require an international preliminary examination (*specify*):

☒ the description, claims or drawings (*indicate particular elements below*) or said claims Nos. are so unclear that no meaningful opinion could be formed (*specify*):  
**see separate sheet**

☐ the claims, or said claims Nos. are so inadequately supported by the description that no meaningful opinion could be formed.

☐ no international search report has been established for the said claims Nos. .

2. A meaningful international preliminary examination cannot be carried out due to the failure of the nucleotide and/or amino acid sequence listing to comply with the standard provided for in Annex C of the Administrative Instructions:

☐ the written form has not been furnished or does not comply with the standard.

☐ the computer readable form has not been furnished or does not comply with the standard.

**V. Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement**

1. Statement

Novelty (N)

Yes: Claims 2,5

# INTERNATIONAL PRELIMINARY EXAMINATION REPORT

International application No. PCT/GB00/00741

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	No:	Claims	1,10
Inventive step (IS)	Yes:	Claims	
	No:	Claims	2,5
Industrial applicability (IA)	Yes:	Claims	1-10
	No:	Claims	

2. Citations and explanations  
**see separate sheet**

## VII. Certain defects in the international application

The following defects in the form or contents of the international application have been noted:  
**see separate sheet**

**Re Item III**

**Non-establishment of opinion with regard to novelty, inventive step and industrial applicability**

It has not been possible to carry out the examination of claims 3, 4, 6, 7 and 9, as regards the novelty and inventive step, since the features of those claims are recited as calculations of several undefined terms ("A", "B", etc) according to equations that are not defined either (see also point 7 below). Since claim 8 depends on claim 6, it cannot be examined either.

**Re Item V**

**Reasoned statement under Rule 66.2(a)(ii) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement**

1. Reference is made to the following documents:

D1: EP-A-0 601 293 (MOTOROLA INC) 15 June 1994 (1994-06-15)

D2: WO 98 14796 A (QUALCOMM INC) 9 April 1998 (1998-04-09)

2. The solution proposed in claim 1 of the present application cannot be considered novel (Article 33(2) PCT) for the following reasons.

Document **D1** discloses a method of determining the position of a mobile station in a satellite mobile telephone system (see abstract and figure 1), the method comprising the steps of:

- receiving propagation information from at least one satellite at a mobile station (column 17, lines 14-21), the propagation information being sufficient to define two intersecting curves on the earth's surface (column 22, lines 2-8); and
- processing the propagation information at the mobile station to identify the location of an intersection of said curves for determining the position of the mobile station (see figure 11).

Document **D2** anticipates also the same technical features. This document discloses a method of determining the position of a mobile station in a satellite mobile telephone system (see page 5, lines 15-19), the method comprising the steps of:

- receiving propagation information from at least one satellite at a mobile station (page 5, lines 20-35), the propagation information being sufficient to define two intersecting curves on the earth's surface (page 24, lines 23-25); and
- processing the propagation information at the mobile station to identify the location of an intersection of said curves for determining the position of the mobile station (see figure 8).

In conclusion, both D1 and D2 anticipate the technical features of claim 1. Therefore, the subject-matter of claim 1 lacks novelty (Article 33(2) PCT).

3. Dependent claims 2 and 5 do not contain any additional features which, in combination with the features of any claim to which they refer, meet the requirements of inventive step (Article 33(3) PCT). The use of propagation time data and doppler shift data as propagation information is disclosed in **D2** (see page 21, "Range difference"; and page 22, "Range-rate difference").
4. Claim 10 consists merely of the implementation of the method of claims 1-9 in a generic mobile satellite station comprising a transmitter, a receiver and a controller. A mobile terminal implementing the method of claim 1 is disclosed in D1 (see figure 13, (30)). Therefore, the subject-matter of claim 10 lacks novelty (Article 33(2) PCT).



**Re Item VII**

**Certain defects in the international application**

1. Independent claims are not in the two-part form in accordance with Rule 6.3(b) PCT, which in the present case would be appropriate, with those features known in combination from the prior art (document **D1** or **D2**) being placed in the preamble (Rule 6.3(b)(i) PCT) and with the remaining features being included in the characterising part (Rule 6.3(b)(ii) PCT).
2. Claims 3, 4, 6, 7 and 9 contain references to the description. According to Rule 6.2(a) PCT, claims should not contain such references except where absolutely necessary, which is not the case here.
3. Contrary to the requirements of Rule 5.1(a)(ii) PCT, the relevant background art disclosed in the documents **D1** and **D2** is not mentioned in the description, nor are these documents identified therein.

# PATENT COOPERATION TREATY

**RECEIVED**  
15 DEC 2000

From the:  
INTERNATIONAL PRELIMINARY EXAMINING AUTHORITY

To:

GEARY, Stuart L.  
VENNER, SHIPLEY & CO.  
20 Little Britain  
London EC1A 7DH  
GRANDE BRETAGNE

PCT

WRITTEN OPINION

(PCT Rule 66)

Date of mailing (day/month/year)	12.12.2000
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Applicant's or agent's file reference 07 35543	<b>REPLY DUE</b> <b>within 3 month(s)</b> from the above date of mailing
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International application No. PCT/GB00/00741	International filing date (day/month/year) 01/03/2000	Priority date (day/month/year) 04/03/1999
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International Patent Classification (IPC) or both national classification and IPC

G01S5/12

Applicant

ICO SERVICES LTD.

1. This written opinion is the **first** drawn up by this International Preliminary Examining Authority.

2. This opinion contains indications relating to the following items:

- I ☒ Basis of the opinion
- II ☐ Priority
- III ☒ Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
- IV ☐ Lack of unity of invention
- V ☒ Reasoned statement under Rule 66.2(a)(ii) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
- VI ☐ Certain document cited
- VII ☒ Certain defects in the international application
- VIII ☐ Certain observations on the international application

3. The applicant is hereby **invited to reply** to this opinion.

**When?** See the time limit indicated above. The applicant may, before the expiration of that time limit, request this Authority to grant an extension, see Rule 66.2(d).

**How?** By submitting a written reply, accompanied, where appropriate, by amendments, according to Rule 66.3. For the form and the language of the amendments, see Rules 66.8 and 66.9.

**Also:** For an additional opportunity to submit amendments, see Rule 66.4.  
For the examiner's obligation to consider amendments and/or arguments, see Rule 66.4 bis.  
For an informal communication with the examiner, see Rule 66.6.

**If no reply is filed**, the international preliminary examination report will be established on the basis of this opinion.

4. The final date by which the international preliminary examination report must be established according to Rule 69.2 is: 04/07/2001.

Name and mailing address of the international preliminary examining authority:

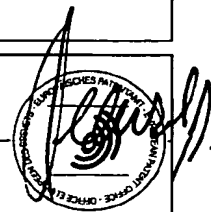
 European Patent Office  
D-80298 Munich  
Tel. +49 89 2399 - 0 Tx: 523656 epmu d  
Fax: +49 89 2399 - 4465

Authorized officer / Examiner

Fanjul Caudevilla, J

Formalities officer (incl. extension of time limits)

Weidemann, P  
Telephone No. +49 89 2399 8245



**I. Basis of the opinion**

1. This opinion has been drawn on the basis of (*substitute sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this opinion as "originally filed".*):

**Description, pages:**

1-21 as originally filed

**Claims, No.:**

1-10 as originally filed

**Drawings, sheets:**

1/8-8/8 as originally filed

2. With regard to the **language**, all the elements marked above were available or furnished to this Authority in the language in which the international application was filed, unless otherwise indicated under this item.

These elements were available or furnished to this Authority in the following language: , which is:

- ☐ the language of a translation furnished for the purposes of the international search (under Rule 23.1(b)).
- ☐ the language of publication of the international application (under Rule 48.3(b)).
- ☐ the language of a translation furnished for the purposes of international preliminary examination (under Rule 55.2 and/or 55.3).

3. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application, the international preliminary examination was carried out on the basis of the sequence listing:

- ☐ contained in the international application in written form.
- ☐ filed together with the international application in computer readable form.
- ☐ furnished subsequently to this Authority in written form.
- ☐ furnished subsequently to this Authority in computer readable form.
- ☐ The statement that the subsequently furnished written sequence listing does not go beyond the disclosure in the international application as filed has been furnished.
- ☐ The statement that the information recorded in computer readable form is identical to the written sequence listing has been furnished.

4. The amendments have resulted in the cancellation of:

- ☐ the description, pages:
- ☐ the claims, Nos.:

☐ the drawings, sheets:

5. ☐ This report has been established as if (some of) the amendments had not been made, since they have been considered to go beyond the disclosure as filed (Rule 70.2(c)):

*(Any replacement sheet containing such amendments must be referred to under item 1 and annexed to this report.)*

6. Additional observations, if necessary:

**III. Non-establishment of opinion with regard to novelty, inventive step and industrial applicability**

The questions whether the claimed invention appears to be novel, to involve an inventive step (to be non-obvious), or to be industrially applicable have not been and will not be examined in respect of:

☐ the entire international application,

☒ claims Nos. 3,4,6,7, 9,

because:

☐ the said international application, or the said claims Nos. relate to the following subject matter which does not require an international preliminary examination (*specify*):

☒ the description, claims or drawings (*indicate particular elements below*) or said claims Nos. are so unclear that no meaningful opinion could be formed (*specify*):  
**see separate sheet**

☐ the claims, or said claims Nos. are so inadequately supported by the description that no meaningful opinion could be formed.

☐ no international search report has been established for the said claims Nos. .

2. A written opinion cannot be drawn due to the failure of the nucleotide and/or amino acid sequence listing to comply with the standard provided for in Annex C of the Administrative Instructions:

☐ the written form has not been furnished or does not comply with the standard.

☐ the computer readable form has not been furnished or does not comply with the standard.

**V. Reasoned statement under Rule 66.2(a)(ii) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement**

1. Statement

Novelty (N) Claims 1,2,5

Inventive step (IS) Claims 8

## **WRITTEN OPINION**

International application No. PCT/GB00/00741

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Industrial applicability (IA)

Claims

2. Citations and explanations  
**see separate sheet**

### **VII. Certain defects in the international application**

The following defects in the form or contents of the international application have been noted:  
**see separate sheet**

**Re Item V**

**Reasoned statement under Rule 66.2(a)(ii) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement**

1. Reference is made to the following documents:

D1: EP-A-0 601 293 (MOTOROLA INC) 15 June 1994 (1994-06-15)

D2: WO 98 14796 A (QUALCOMM INC) 9 April 1998 (1998-04-09)

2. The solution proposed in claim 1 of the present application cannot be considered novel (Article 33(2) PCT) for the following reasons.

Document **D1** discloses a method of determining the position of a mobile station in a satellite mobile telephone system (see abstract and figure 1), the method comprising the steps of:

- receiving propagation information from at least one satellite at a mobile station (column 17, lines 14-21), the propagation information being sufficient to define two intersecting curves on the earth's surface (column 22, lines 2-8); and
- processing the propagation information at the mobile station to identify the location of an intersection of said curves for determining the position of the mobile station (see figure 11).

Document **D2** anticipates also the same technical features. This document discloses a method of determining the position of a mobile station in a satellite mobile telephone system (see page 5, lines 15-19), the method comprising the steps of:

- receiving propagation information from at least one satellite at a mobile station (page 5, lines 20-35), the propagation information being sufficient to define two intersecting curves on the earth's surface (page 24, lines 23-25); and

- processing the propagation information at the mobile station to identify the location of an intersection of said curves for determining the position of the mobile station (see figure 8).

In conclusion, both D1 and D2 anticipate the technical features of claim 1. Therefore, the subject-matter of claim 1 lacks novelty (Article 33(2) PCT).

3. Dependent claims 2, 5 and 8 do not appear to contain any additional features which, in combination with the features of any claim to which they refer, meet the requirements of novelty and inventive step. They are either known from the prior art or they are considered to be common design measures within the normal range of options envisaged by a person skilled in this art.
  - Claims 2, 5: The use of propagation time data and doppler shift data as propagation information is disclosed in **D2** (see page **21**, "Range difference"; and page **22**, "Range-rate difference").
  - Claim 8: The selection of one among several pairs of coordinates, based upon the identity of the cell on which the mobile station is placed, is disclosed in D1 (column **22**, lines **2-8**).
4. Claim **10** consists merely of the implementation of the method of claims 1-9 in a generic mobile satellite station comprising a transmitter, a receiver and a controller. Since this method is not regarded as inventive, according to the objection 1, claim 10 does not involve an inventive step (Article 33(3) PCT).
5. It has not been possible to carry out the examination of claims 3, 4, 6, 7 and 9, as regards the novelty and inventive step, since the features of those claims are recited as calculations of several undefined terms ("A", "B", etc) according to equations that are not defined either (see point 7 below).

**Re Item VII**

**Certain defects in the international application**

1. Independent claims are not in the two-part form in accordance with Rule 6.3(b) PCT, which in the present case would be appropriate, with those features known in combination from the prior art (document **D1** or **D2**) being placed in the preamble (Rule 6.3(b)(i) PCT) and with the remaining features being included in the characterising part (Rule 6.3(b)(ii) PCT).
2. Claims 3, 4, 6, 7 and 9 contain references to the description. According to Rule 6.2(a) PCT, claims should not contain such references except where absolutely necessary, which is not the case here.
3. To meet the requirements of Rule 5.1 a) ii) PCT, the documents **D1** and **D2** should be identified in the description and the relevant background art disclosed therein should be briefly discussed.



**PCT  
DEMAND**

**CHAPTER II**

Demand under Article 31 of the Patent Cooperation Treaty:  
The undersigned requests that the international application specified below be the subject of  
international preliminary examination according to the Patent Cooperation Treaty.

For International Preliminary Examining Authority use only

Identification of IPEA		Date of receipt of DEMAND	
------------------------	--	---------------------------	--

<b>Box No. I IDENTIFICATION OF THE INTERNATIONAL APPLICATION</b>		Applicant's or agent's file ref. <b>07 35543</b>	
International application No. <b>PCT/GB00/00741</b>	International filing date <b>01 MAR 2000</b>	(Earliest) Priority date <b>04 MAR 1999</b>	
Title of invention <b>Mobile Station Position Determination in a Satellite Mobile Telephone System</b>			

<b>Box No. II APPLICANT(S)</b>			
Name and address:  <b>ICO Services Ltd 1 Queen Caroline Street London, W6 9BN, GB</b>		Telephone No.:  Facsimile No.:  Teleprinter No.:	
State of nationality: <b>GB</b>		State of residence: <b>GB</b>	

Name and address:  <b><u>LeGoff, Tania</u> Flat 2, 11 Royal Crescent London, W11 4SL, GB</b>			
State of nationality: <b>FR</b>		State of residence: <b>GB</b>	

Name and address:  <b><u>Grayson, Mark</u> 71 Paxton Road, Chiswick London W4 2Q, GB</b>			
State of nationality: <b>GB</b>		State of residence: <b>GB</b>	

		Further applicants are indicated on a continuation sheet.	
--	--	---	--

**Box No. III AGENT OR COMMON REPRESENTATIVE; OR ADDRESS FOR CORRESPONDENCE**

The following person is ☒ agent ☐ common representative  
 and ☒ has been appointed earlier and represents the applicant(s) also for international preliminary examination.  
☐ is hereby appointed and any earlier appointment of (an) agent(s)/common representative is hereby revoked.  
☐ is hereby appointed, specifically for the procedure before the International Preliminary Examining Authority, in addition to the agent(s)/common representative appointed earlier.

Name and address:

**VENNER, SHIPLEY & CO.  
 20 LITTLE BRITAIN  
 LONDON EC1A 7DH  
 UNITED KINGDOM**

Telephone No.:

**020 7600 4212**

Facsimile No.:

**020 7600 4188**

Teleprinter No.:

☐ Mark this check-box where no agent or common representative is/has been appointed and the space above is used instead to indicate a special address to which correspondence should be sent.

**Box No. IV BASIS FOR INTERNATIONAL PRELIMINARY EXAMINATION****Statement concerning amendments:\***

1. The applicant wishes the international preliminary examination to start on the basis of:

☒ the international application as originally filed.

the description

☐  
☐

as originally filed

as amended under Article 34

the claims

☐  
☐  
☐

as originally filed

as amended under Article 19 (together with any accompanying statement)

as amended under Article 34

the drawings

☐  
☐

as originally filed

as amended under Article 34

2. ☐ The applicant wishes any amendments to the claims under Article 19 to be considered as reversed.3. ☐ The applicant wishes the start of international preliminary examination to be postponed until the expiry of 20 months from the priority date unless the IPEA receives a copy of any amendments made under Article 19 or a notice from the applicant that he does not wish to make such amendments (Rule 69.1(d)).

\* Where no check-box is marked, international preliminary examination will start on the basis of the international application as originally filed or, where a copy of amendments to the claims under Article 19 and/or amendments of the international application under Article 34 are received by the International Preliminary Examining Authority before it has begun to draw up a written opinion or the international preliminary examination report, as so amended.

**Language for the purposes of international preliminary examination: ENGLISH**
☒  
☐  
☐  
☐

which is the language in which the international application was filed.

which is the language of a translation furnished for the purposes of international search.

which is the language of publication of the international application.

which is the language of the translation (to be) furnished for the purposes of international preliminary examination.

**Box No. V ELECTION OF STATES**

The applicant hereby elects all eligible States excluding the following States which the applicant wishes not to elect:

**Box No. VI CHECK LIST**

The demand is accompanied by the following elements, in the language referred to in Box No. IV, for the purposes of international preliminary examination:

- |  |        |
|--|--------|
| 1. translation of international application :                              | sheets |
| 2. amendments under Article 34 :   | sheets |
| 3. copy (or, where required, translation) of amendments under Article 19 : | sheets |
| 4. copy (or, where required, translation) of statement under Article 19 :  | sheets |
| 5. letter :  | sheets |
| 6. other ( <i>specify</i> ) :  | sheets |

For International Preliminary Examining Authority use only

received

not received



The demand is also accompanied by the item(s) marked below:

- |  |   |
|--|---|
| 1. <input checked="" type="checkbox"/> fee calculation sheet                             | 4. <input type="checkbox"/> statement explaining lack of signature                                  |
| 2. <input type="checkbox"/> separate signed power of attorney                            | 5. <input type="checkbox"/> nucleotide and or amino acid sequence listing in computer readable form |
| 3. <input type="checkbox"/> copy of general power of attorney; reference number, if any; | 6. <input type="checkbox"/> other ( <i>specify</i> )  |

**Box No. VII SIGNATURE OF APPLICANT, AGENT OR COMMON REPRESENTATIVE**

  
GEARY; Stuart Lloyd

For International Preliminary Examining Authority use only

1. Date of actual receipt of DEMAND:			
2. Adjusted date of receipt of demand due to CORRECTIONS under Rule 60.1(b):			
3.	<input type="checkbox"/>	The date of receipt of the demand is AFTER the expiration of 19 months from the priority date, and item 4 or 5 below does not apply.	<input type="checkbox"/> The applicant has been informed accordingly.
4.	<input type="checkbox"/>	The date of receipt of the demand is WITHIN the period of 19 months from the priority date as extended by virtue of Rule 80.5	
5.	<input type="checkbox"/>	Although the date of receipt of the demand is after the expiration of 19 months from the priority date, the delay in arrival is EXCUSED pursuant to Rule 82.	

For International Bureau use only

Demand received from IPEA on:

5 JUN 2000

R

From the INTERNATIONAL SEARCHING AUTHORITY

**PCT**

**NOTIFICATION OF TRANSMITTAL OF  
THE INTERNATIONAL SEARCH REPORT  
OR THE DECLARATION**

(PCT Rule 44.1)

To:

VENNER, SHIPLEY & CO.  
Attn. GEARY, Stuart L.  
20 Little Britain  
London EC1A 7DH  
UNITED KINGDOM

Date of mailing  
(day/month/year)

02/06/2000

Applicant's or agent's file reference

07 35543

**FOR FURTHER ACTION**

See paragraphs 1 and 4 below

International application No.

PCT/GB 00/ 00741

International filing date  
(day/month/year)

01/03/2000

Applicant

ICO SERVICES LTD.

1. ☒ The applicant is hereby notified that the International Search Report has been established and is transmitted herewith.

**Filing of amendments and statement under Article 19:**

The applicant is entitled, if he so wishes, to amend the claims of the International Application (see Rule 46):

**When?** The time limit for filing such amendments is normally 2 months from the date of transmittal of the International Search Report; however, for more details, see the notes on the accompanying sheet.

**Where?** Directly to the International Bureau of WIPO  
34, chemin des Colombettes  
1211 Geneva 20, Switzerland  
Facsimile No.: (41-22) 740.14.35

For more detailed instructions, see the notes on the accompanying sheet.

2. ☐ The applicant is hereby notified that no International Search Report will be established and that the declaration under Article 17(2)(a) to that effect is transmitted herewith.

3. ☐ With regard to the protest against payment of (an) additional fee(s) under Rule 40.2, the applicant is notified that:

☐ the protest together with the decision thereon has been transmitted to the International Bureau together with the applicant's request to forward the texts of both the protest and the decision thereon to the designated Offices.

☐ no decision has been made yet on the protest; the applicant will be notified as soon as a decision is made.

4. **Further action(s):** The applicant is reminded of the following:

Shortly after 18 months from the priority date, the international application will be published by the International Bureau. If the applicant wishes to avoid or postpone publication, a notice of withdrawal of the international application, or of the priority claim, must reach the International Bureau as provided in Rules 90bis.1 and 90bis.3, respectively, before the completion of the technical preparations for international publication.

Within 19 months from the priority date, a demand for international preliminary examination must be filed if the applicant wishes to postpone the entry into the national phase until 30 months from the priority date (in some Offices even later).

Within 20 months from the priority date, the applicant must perform the prescribed acts for entry into the national phase before all designated Offices which have not been elected in the demand or in a later election within 19 months from the priority date or could not be elected because they are not bound by Chapter II.

Name and mailing address of the International Searching Authority

 European Patent Office, P.B. 5818 Patentlaan 2  
NL-2280 HV Rijswijk  
Tel. (+31-70) 340-2040, Tx. 31 651 epo nl,  
Fax: (+31-70) 340-3016

Authorized officer

Eric Walsh

## NOTES TO FORM PCT/ISA/220

These Notes are intended to give the basic instructions concerning the filing of amendments under article 19. The Notes are based on the requirements of the Patent Cooperation Treaty, the Regulations and the Administrative Instructions under that Treaty. In case of discrepancy between these Notes and those requirements, the latter are applicable. For more detailed information, see also the PCT Applicant's Guide, a publication of WIPO.

In these Notes, "Article", "Rule", and "Section" refer to the provisions of the PCT, the PCT Regulations and the PCT Administrative Instructions respectively.

### INSTRUCTIONS CONCERNING AMENDMENTS UNDER ARTICLE 19

The applicant has, after having received the international search report, one opportunity to amend the claims of the international application. It should however be emphasized that, since all parts of the international application (claims, description and drawings) may be amended during the international preliminary examination procedure, there is usually no need to file amendments of the claims under Article 19 except where, e.g. the applicant wants the latter to be published for the purposes of provisional protection or has another reason for amending the claims before international publication. Furthermore, it should be emphasized that provisional protection is available in some States only.

#### What parts of the international application may be amended?

Under Article 19, only the claims may be amended.

During the international phase, the claims may also be amended (or further amended) under Article 34 before the International Preliminary Examining Authority. The description and drawings may only be amended under Article 34 before the International Examining Authority.

Upon entry into the national phase, all parts of the international application may be amended under Article 28 or, where applicable, Article 41.

#### When?

Within 2 months from the date of transmittal of the international search report or 16 months from the priority date, whichever time limit expires later. It should be noted, however, that the amendments will be considered as having been received on time if they are received by the International Bureau after the expiration of the applicable time limit but before the completion of the technical preparations for international publication (Rule 46.1).

#### Where not to file the amendments?

The amendments may only be filed with the International Bureau and not with the receiving Office or the International Searching Authority (Rule 46.2).

Where a demand for international preliminary examination has been/is filed, see below.

#### How?

Either by cancelling one or more entire claims, by adding one or more new claims or by amending the text of one or more of the claims as filed.

A replacement sheet must be submitted for each sheet of the claims which, on account of an amendment or amendments, differs from the sheet originally filed.

All the claims appearing on a replacement sheet must be numbered in Arabic numerals. Where a claim is cancelled, no renumbering of the other claims is required. In all cases where claims are renumbered, they must be renumbered consecutively (Administrative Instructions, Section 205(b)).

The amendments must be made in the language in which the international application is to be published.

#### What documents must/may accompany the amendments?

##### Letter (Section 205(b)):

The amendments must be submitted with a letter.

The letter will not be published with the international application and the amended claims. It should not be confused with the "Statement under Article 19(1)" (see below, under "Statement under Article 19(1)").

The letter must be in English or French, at the choice of the applicant. However, if the language of the international application is English, the letter must be in English; if the language of the international application is French, the letter must be in French.

## NOTES TO FORM PCT/ISA/220 (continued)

The letter must indicate the differences between the claims as filed and the claims as amended. It must, in particular, indicate, in connection with each claim appearing in the international application (it being understood that identical indications concerning several claims may be grouped), whether

- (i) the claim is unchanged;
- (ii) the claim is cancelled;
- (iii) the claim is new;
- (iv) the claim replaces one or more claims as filed;
- (v) the claim is the result of the division of a claim as filed.

The following examples illustrate the manner in which amendments must be explained in the accompanying letter:

1. [Where originally there were 48 claims and after amendment of some claims there are 51]:  
"Claims 1 to 29, 31, 32, 34, 35, 37 to 48 replaced by amended claims bearing the same numbers; claims 30, 33 and 36 unchanged; new claims 49 to 51 added."
2. [Where originally there were 15 claims and after amendment of all claims there are 11]:  
"Claims 1 to 15 replaced by amended claims 1 to 11."
3. [Where originally there were 14 claims and the amendments consist in cancelling some claims and in adding new claims]:  
"Claims 1 to 6 and 14 unchanged; claims 7 to 13 cancelled; new claims 15, 16 and 17 added." or  
"Claims 7 to 13 cancelled; new claims 15, 16 and 17 added; all other claims unchanged."
4. [Where various kinds of amendments are made]:  
"Claims 1-10 unchanged; claims 11 to 13, 18 and 19 cancelled; claims 14, 15 and 16 replaced by amended claim 14; claim 17 subdivided into amended claims 15, 16 and 17; new claims 20 and 21 added."

### "Statement under article 19(1)" (Rule 46.4)

The amendments may be accompanied by a statement explaining the amendments and indicating any impact that such amendments might have on the description and the drawings (which cannot be amended under Article 19(1)).

The statement will be published with the international application and the amended claims.

It must be in the language in which the international application is to be published.

It must be brief, not exceeding 500 words if in English or if translated into English.

It should not be confused with and does not replace the letter indicating the differences between the claims as filed and as amended. It must be filed on a separate sheet and must be identified as such by a heading, preferably by using the words "Statement under Article 19(1)."

It may not contain any disparaging comments on the international search report or the relevance of citations contained in that report. Reference to citations, relevant to a given claim, contained in the international search report may be made only in connection with an amendment of that claim.

### Consequence if a demand for international preliminary examination has already been filed

If, at the time of filing any amendments under Article 19, a demand for international preliminary examination has already been submitted, the applicant must preferably, at the same time of filing the amendments with the International Bureau, also file a copy of such amendments with the International Preliminary Examining Authority (see Rule 62.2(a), first sentence).

### Consequence with regard to translation of the international application for entry into the national phase

The applicant's attention is drawn to the fact that, where upon entry into the national phase, a translation of the claims as amended under Article 19 may have to be furnished to the designated/elected Offices, instead of, or in addition to, the translation of the claims as filed.

For further details on the requirements of each designated/elected Office, see Volume II of the PCT Applicant's Guide.

# PCT

## INTERNATIONAL SEARCH REPORT

(PCT Article 18 and Rules 43 and 44)

Applicant's or agent's file reference <b>07 35543</b>	<b>FOR FURTHER ACTION</b> see Notification of Transmittal of International Search Report (Form PCT/ISA/220) as well as, where applicable, item 5 below.	
International application No. <b>PCT/GB 00/ 00741</b>	International filing date (day/month/year) <b>01/03/2000</b>	(Earliest) Priority Date (day/month/year) <b>04/03/1999</b>
Applicant <b>ICO SERVICES LTD.</b>		

This International Search Report has been prepared by this International Searching Authority and is transmitted to the applicant according to Article 18. A copy is being transmitted to the International Bureau.

This International Search Report consists of a total of 3 sheets.  
☒ It is also accompanied by a copy of each prior art document cited in this report.

### 1. Basis of the report

- a. With regard to the language, the international search was carried out on the basis of the international application in the language in which it was filed, unless otherwise indicated under this item.

☐ the international search was carried out on the basis of a translation of the international application furnished to this Authority (Rule 23.1(b)).

- b. With regard to any nucleotide and/or amino acid sequence disclosed in the international application, the international search was carried out on the basis of the sequence listing:

☐ contained in the international application in written form.

☐ filed together with the international application in computer readable form.

☐ furnished subsequently to this Authority in written form.

☐ furnished subsequently to this Authority in computer readable form.

☐ the statement that the subsequently furnished written sequence listing does not go beyond the disclosure in the international application as filed has been furnished.

☐ the statement that the information recorded in computer readable form is identical to the written sequence listing has been furnished

2. ☐ Certain claims were found unsearchable (See Box I).

3. ☐ Unity of invention is lacking (see Box II).

### 4. With regard to the title,

☒ the text is approved as submitted by the applicant.

☐ the text has been established by this Authority to read as follows:

### 5. With regard to the abstract,

☒ the text is approved as submitted by the applicant.

☐ the text has been established, according to Rule 38.2(b), by this Authority as it appears in Box III. The applicant may, within one month from the date of mailing of this international search report, submit comments to this Authority.

6. The figure of the drawings to be published with the abstract is Figure No.

☒ as suggested by the applicant.

☐ because the applicant failed to suggest a figure.

☐ because this figure better characterizes the invention.

1  
☐ None of the figures.

## INTERNATIONAL SEARCH REPORT

International Application No.

PCT/GB 00/00741

## A. CLASSIFICATION OF SUBJECT MATTER

IPC 7 G01S5/12 H04B7/185 G01S5/14 G01S5/00

According to International Patent Classification (IPC) or to both national classification and IPC

## B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

IPC 7 G01S H04B

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

## C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	EP 0 601 293 A (MOTOROLA INC) 15 June 1994 (1994-06-15) column 11, line 10 - line 22 column 21, line 12 - column 22, line 22	1, 10
X	WO 98 14796 A (QUALCOMM INC) 9 April 1998 (1998-04-09) page 4, line 23 - line 31 * Positioning Method * claims 1, 3, 18 figure 7	1, 5, 10
A	EP 0 803 742 A (TRW INC) 29 October 1997 (1997-10-29) abstract	1-10
	-/-	



Further documents are listed in the continuation of box C.



Patent family members are listed in annex.

## \* Special categories of cited documents :

- \*A\* document defining the general state of the art which is not considered to be of particular relevance
- \*E\* earlier document but published on or after the international filing date
- \*L\* document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)
- \*O\* document referring to an oral disclosure, use, exhibition or other means
- \*P\* document published prior to the international filing date but later than the priority date claimed

- \*T\* later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
- \*X\* document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
- \*Y\* document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art.
- \*&\* document member of the same patent family

Date of the actual completion of the international search

25 May 2000

Date of mailing of the international search report

02/06/2000

Name and mailing address of the ISA

European Patent Office, P.B. 5818 Patentlaan 2  
NL - 2280 HV Rijswijk  
Tel. (+31-70) 340-2040, Tx. 31 651 epo nl,  
Fax: (+31-70) 340-3016

Authorized officer

Ó Donnabháin, C



# INTERNATIONAL SEARCH REPORT

International Application No.

PCT/GB 00/00741

## C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	<p>US 5 610 615 A (CHIODINI ALAIN)  11 March 1997 (1997-03-11)  the whole document</p>	1-10

# INTERNATIONAL SEARCH REPORT

Information on patent family members

International Application No

PCT/GB 00/00741

Patent document cited in search report		Publication date	Patent family member(s)		Publication date
EP 0601293	A	15-06-1994	CA	2106534 A	08-06-1994
			JP	6281720 A	07-10-1994
WO 9814796	A	09-04-1998	AU	5685998 A	24-04-1998
			CN	1239549 A	22-12-1999
			EP	0929823 A	21-07-1999
EP 0803742	A	29-10-1997	US	6020847 A	01-02-2000
			CA	2202827 A	25-10-1997
			JP	10048310 A	20-02-1998
US 5610615	A	11-03-1997	FR	2721459 A	22-12-1995
			AU	698864 B	12-11-1998
			AU	2177195 A	04-01-1996
			CA	2152225 A	22-12-1995
			EP	0689062 A	27-12-1995
			FI	953028 A	22-12-1995
			JP	8050173 A	20-02-1996